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January 17, 2003

Office of the Secretary
Federal Communications Commission
445 12th St., S.W., Room TW-A325
Washington, D.C. 20554

RE: Petition for Revision in FCC Part 24.232

Petition is related to:

WT Docket No. 01-309, NPRM Related to Reexamination of Exemption Granted Personal Communications Services devices from the Hearing Aid Compatibility Act of 1988

Dear Commissioner:

We represent Myers Johnson, Inc. (MJI), a company involved in the design and production of wireless communication accessories. MJI is devoting significant attention to communications equipment access issues for persons with hearing disabilities and is interested in the proceedings of the Federal Communications Commission (the Commission) as they relate to hearing aids and cochlear implants. MJI has been following the Commission's reexamination of the exemption granted Personal Communications Services (PCS) devices from certain provisions of the Hearing Aid Compatibility Act of 1988 (the HAC Act), as announced in the Notice of Proposed Rulemaking (the NPRM), WT Docket 01-309.

We believe that the directional antenna technology MJI has developed significantly advances resolution of the compatibility problem between hearing aids and wireless phones feasible as it relates to the interference caused by RF signals. However, we have discovered that by, what we believe is an accident of wording, FCC Part 24.232, precludes the effective implementation of innovative directional antenna technologies. We therefore urge the Commission to revise this section of the rules.

MJI's research has revealed that the parallel European requirement found in the ETSI standards is worded differently and allows the use of innovative directional antennas. We therefore petition that FCC Part 24.232 be revised and harmonized with the corresponding ETSI requirement.

Enclosed herewith are two letters from concerned parties in support of the Petition. We would appreciate the Commission's consideration of the foregoing as it finalizes its decision

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regarding the exemption that is the subject of the NPRM. Please feel free to contact me at (617) 854-4184 if we may provide any further information or assistance in this process.

Sincerely,

For the Petitioner, Myers Johnson, Inc.

John A. Hamilton, Esq.
Perkins, Smith & Cohen. LLP

cc: Qualex International, Portals II
Federal Communications Commission
445 12th Street
FCC 01-320 17 SW, Rm CY-B402
Washington, D.C. 20554

Wireless Telecommunications Bureau, Policy Division
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Petition for Revision of	**)**	
FCC Part 24.232	**)**	
	)	
In connection with	**)**	
	)	
Section 68.4(a) of the Commission's Rules	**)**	
Governing Hearing Aid	**)**	**WT Docket No. 01-309**
Compatible Telephones	**)**	**RM-8658**
	)	

PETITION
OF
Myers Johnson Inc.

Myers Johnson Inc. (MJI) presents this Petition with arguments for use of directional antennas in the improvement of wireless hearing aid compatibility through the reduction of RF interference. The purpose of this petition is that an FCC rule change is required to remove the isotropicity requirement contained in FCC Part 24.232, 47 CFR 24.232, and allow innovative use of directional antennas with cellular phones.

Specifically we request that FCC Part 24.232, which now recites:

> *§ 24.232 Power and antenna height limits*
>
> *(b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.*

MJI suggests that this section be revised to read:

> *§ 24.232 Power and antenna height limits*
>
> *(b) Mobile/portable stations are limited to 32 dBm peak power supplied to the antenna and the equipment must employ means to limit the power to the minimum necessary for successful communications.*

MJI is a new company involved in the design, development, and launch of an antenna accessory referred to as an Interferometric Antenna Array (IAA). This was explained in MJI's response to Docket No.01-309 comments NPRMWT 5/15/02. Currently the IAA is an accessory for cellular phones that can be incorporated into nearly any handset to significantly address HAC issues as related to RF emissions from the cellular phone antenna. The IAA fits as an accessory to most handsets equipped with an external RF connector and can be ultimately designed into all handsets. With this alternative antenna, a phone can be effectively adapted for use by hearing aids users.

MJI is working to bring a new and creative solution to the issue of wireless Hearing Aid Compatibility.

Through use of directional antenna technology, the electromagnetic fields directed toward the user can be dramatically reduced, allowing the hearing aid to function with greatly reduced or eliminated RF interference. The hearing aid user can simply pick up the cellular phone and begin using it without the need to make connections of loops, headsets, or other coupling devices. MJI believes that reducing the RF signal at the hearing aid is the most technically feasible solution.

MJI's independent test confirms that the IAA antenna can reduce RF energy toward the hearing aid by a significant amount. Naturally, loading of the antenna by the user and the surrounding environment affects the performance measured. However, in tests of over 40 hearing aids currently sold on the market all hearing aids tested were able to use the phone when equipped with an IAA antenna. With the antenna provided with the phone only ~20% were judged to be usable with the phone. The IAA is a viable approach to addressing the HAC Act.

In reducing RF energy to the hearing aid, directional antenna reduce energy in the lateral areas of the antenna (sides where user can be found) and it enhances energy gain in the longitudinal areas of the antenna (forward and rear for cellular site connections) as a consequence. This figure "8" radiating pattern balances out to an effective radiating power (ERP) conducive to maintain adequate carrier service. This was illustrated in preliminary tests conducted by MJI, wherein the directional antenna was tested driving along a routes known to have regular drop offs. No additional drop offs were experienced using the IAA and some cases the IAA improved both performance and clarity. According to the International Electrical and Electronic Engineers Report, as much as 68% of RF energy is absorbed by the user's head or body (Proceedings of the IEEE January 1995 Report Handset Antennas and Humans). When using a directional, this wasted energy is redirected to the front or rear of the user thus improving efficiency. In addition, the idealized energy improvements in radiated energy toward cellular sites is a substantial advantage over current technology and may facilitate energy reductions in overall energy output.

MJI is seeking this revision to the isotropicity requirement contained in FCC Part 24, 47 CFR 24.232, in order to allow industry-generated innovations to reduce emissions at the hearing aid by shaping energy and to assist industry to fully comply with the requirements of the HAC Act.